

NEBRASKA DEPARTMENT OF ROADS
NDR STANDARD METHOD T 27

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES

NDR T 27 is identical to **AASHTO T 27-99** except for the following provisions:

Replace Sections 7.3, 7.4, and 7.5 of AASHTO T 27-99 with the following:

- 7.3 **Fine Aggregate** - See Table II and Table III for detailed test sample size for various types of fine aggregate and soil.
- 7.4 **Coarse Aggregate** - See Table IV for detailed test sample sizes for various types of coarse aggregates.
- 7.5 **Coarse and Fine Aggregate Mixtures** - See Table VI for detailed test sample sizes for various types of mixtures of fine and coarse aggregate materials.

TABLE II
SAMPLE SIZE AND SIEVE REQUIREMENTS

Material	Approx. Minimum Sample Size, g *	**Required Sieves Based on 8-inch Diameter Sieves												
		1	3/4	3/8	4	6	8	10	16	20	40	50	100	200
Gravel	1000	X	X	X	X	X	X	X	X	X	X	X		X
Sand Gravel Before Crushing (1) Before Crushing (2)	1000	X	X	X	X	X	X	X				X		X
	5000	X	X	X	X	X	X	X				X		X
Sand Gravel After Crushing	500			X	X	X	X	X	X	X		X		X
Fine Sand with less than 5% on the No. 10 Sieve	200		X		X			X			X	X	X	X
Sand with 5% or more retained on the No. 10 sieve	200/500		X	X	X	X	X	X	X	X	X	X		X
Mineral Aggregate for Armor Coat	500/600		X	X	X	X	X	X	X	X	X	X		X
Gravel for Surfacing	1000	X	X	X	X	X	X	X	X					
Crushed Rock Screening for Base Coarse	1000		X	X	X	X	X	X		X		X		X
Soil-Aggregate Base Course Mixture	1000	X	X	X	X	X	X	X	X	X	X	X		X
Foundation Course Aggregate	500/1000	X	X	X	X	X	X	X	X	X	X	X		X
Soil Binder	100				X			X			X		X	X
Mineral Filler	100				X			X				X	X	X
Soil	100				X			X			X		X	X

* If the materials being tested are in the coarser range, sample sizes should be adjusted upward accordingly.

** Required sieves indicated include sieves to prevent overloading. If more than 200 g, based on 8-inch sieves, is retained on any sieve after sieving, additional spacer sieves should be used or the sample sieved through the nest of sieves in smaller increments.

1) Material before crushing with less than 5 percent retained on the 3/4-inch sieve.

2) Material before crushing with 5 percent or more retained on the 3/4-inch sieve.

TABLE III
SAMPLE SIZE AND SIEVE REQUIREMENTS
FOR FINE AGGREGATE MATERIALS

Material Fine Aggregate for Concrete	Approx. Minimu m Sample Size, g*	**Required Sieves Based on 8-inch Diameter Sieves													
		1	4	3/4	3/8	6	8	10	16	20	30	40	50	100	200
47B, 47BD, 47B-P, 47-PHE, 47B Special, PR, AX, ABX, BX, HE-A	1000	X	X	X	X	X	X	X	X	X	X	X	X		X
Silica Fume	500			X	X	X	X	X	X	X	X	X	X		X
Grout Sand	200				X	X	X	X	X	X	X	X	X		X

* If the materials being tested are in the coarser range, sample sizes should be adjusted upward accordingly.

** Required sieves indicated include spacer sieves to prevent overloading. If more than 200 g, based on 8-inch sieves, is retained on any sieve after sieving, additional spacer sieves should be used or the sample sieved through the nest of sieves in smaller increments.

TABLE IV
SAMPLE SIZE AND SIEVE REQUIREMENTS
FOR COARSE AGGREGATE MATERIALS

Material Coarse Aggregate	Approx. Minimum Sample Size, g*	**Required Sieves								
		1 1/2	1	3/4	1/2	3/8	4	10	20	200
47B, 47B-P, 47B-PHE, 47B Special, 47BD, PR	5000	X	X	X	X	X	X		X	X
Silica Fume	2500			X	X	X	X	X		X

* If the materials being tested are in the coarser range, sample sizes should be adjusted upward accordingly.

**** Required sieves indicated include spacer sieves to prevent overloading when the sample is sieved through a nest of 12 inch diameter sieves. The size of sample to be sieved at one time and the length of sieving time will be regulated by the thoroughness of sieving when checked by the hand sieving method described in Paragraph 8.4.**

TABLE V
SAMPLE SIZE AND SIEVE REQUIREMENTS
FOR MIXTURES OF FINE AND COARSE GRAINED MATERIALS

Material to be separated into two sizes for testing.

[illegible]

TABLE VI
SAMPLE SIZE AND SIEVE REQUIREMENTS
FOR CRUSHED CONCRETE FOUNDATION COARSE

Material	Approx. Minimum Size of Total Sample, g*	**Required Sieves							
		1 1/2	1 1/4	1	3/4	4	10	40	200
Crushed Concrete Foundation Coarse	4000/5000	X	X	X	X	X	X	X	X

- *If the materials being tested are in the coarser range, sample sizes should be adjusted upward accordingly.
- **Required sieves indicated include spacer sieves to prevent overloading when the sample is sieved through a nest of 12-inch diameter sieves. The size of sample to be sieved at one time and the length of sieving time will be regulated by the thoroughness of sieving when checked by the hand sieving method described in Paragraph 8.4.
- 1) If more than 200 g, based on 8-inch sieves, is retained on any sieve after sieving, additional spacer sieves should be used or the sample sieved through the sieves is smaller increments.